

PREST-O-LITE CUTS ALL BATTERY PRICES

Slashing Reductions Bring Electrical Equipment to Pre-War Levels.

NEW YORK, Dec. 25.—What is generally taken as a genuine return to prices "as they used to be" has been reached in the automobile battery trade with the announcement of the 1922 price list of The Prest-O-Lite Company, Inc.

The new prices set in this pronounced reduction are such as have not been seen in years. The entire list of batteries underwent a revision in price as drastic in some instances as 32 per cent below 1921 prices.

The new prices in one case represent a reduction of 45 per cent from the price of 1920. In respect to batteries for popular makes of cars, the prices are materially below the standard prices of 1917, which was before the high price market set in.

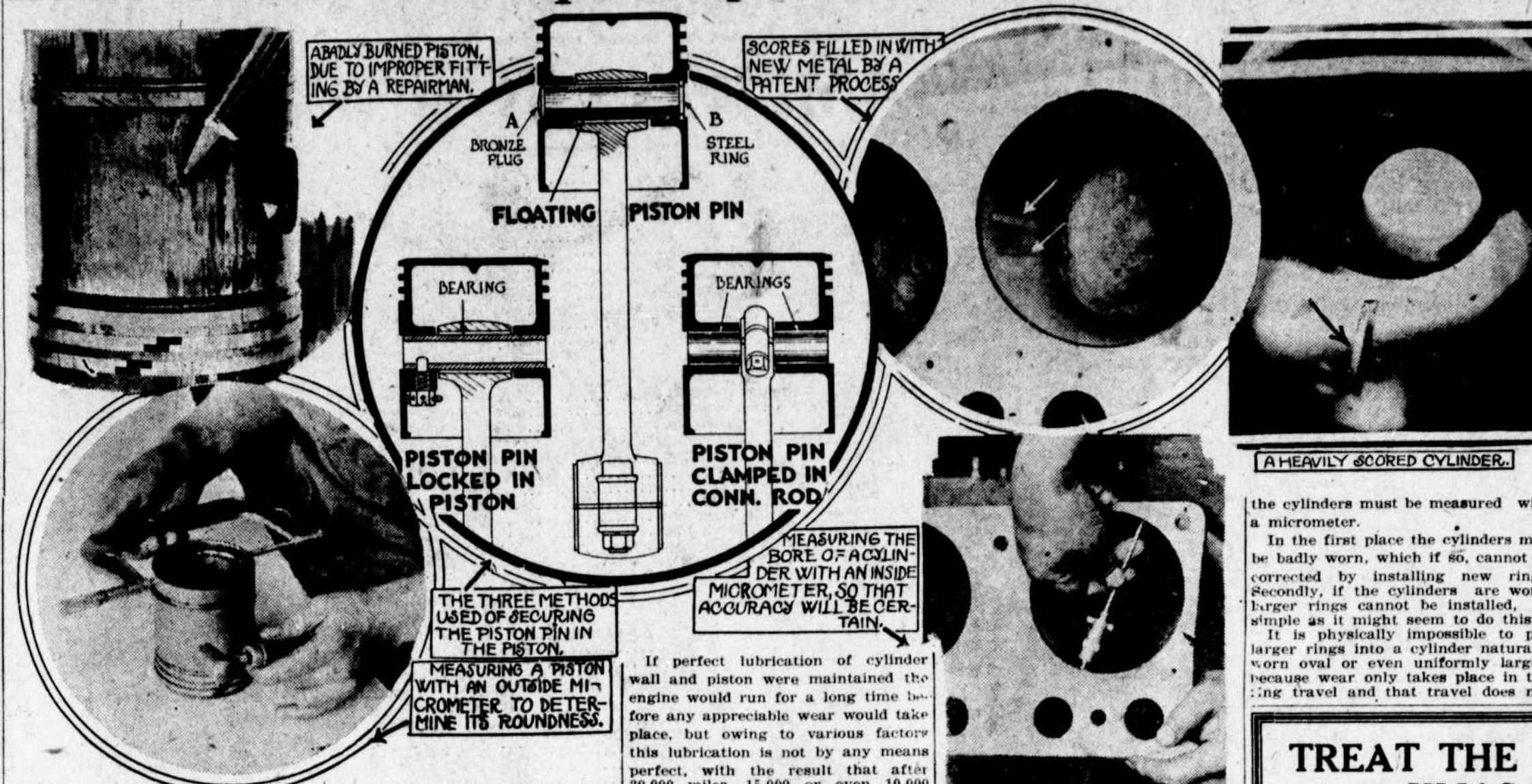
One light car model which in 1917 had a standard list price of \$27.85, appears in the new Prest-O-Lite scale of prices at the "trade-in" price of \$19.80.

Other specimens of the reduction are batteries for Buick, Chandler and similar cars at \$24.65, and for Maxwell, Dodge and Franklin at \$32.30. This latter battery a year ago sold at \$53.10.

Undoubtedly the most important features of the reduction are the extent of it and its permanency. The fact that the cut was not made upon special types and discontinued types was significant. On the other hand, it affected, in a systematic fashion, the entire line of batteries from top to bottom.

This can be taken to mean that the high levels of the past have been definitely and permanently relegated to the past, and the new prices are standard.

Piston, Piston Ring and Cylinder Troubles Diagnosed Least Understood Repair Operations Center Around Them



Responsible for Millions of Dollars Loss Through Repair Bills, Wasted Time, Fuel, and Oil.

By ALEXANDER JOHNSON.
Editor of Motor.

"The average automobile owner is so lacking in knowledge concerning the details of his engine and the average repairman so incompetent, that this nation loses many millions of dollars in engine repair bills, wasted fuel and oil, and time lost."

The least understood repair and maintenance operations center about the cylinders, pistons with their pins and rings.

An engine when shipped from the factory runs just so long and then certain parts become worn, but when ever there are two parts rubbing against each other it is hard to tell simply by looking at them, which one has taken the most wear and just how much. In the case of an engine cylinder and piston one must have some understanding of how these parts are made and how they operate to understand why certain operations are performed later on, why and when new piston rings are necessary, why cylinders need regrinding, and why a really competent shop must do the work.

The cylinders are made generally of cast iron and have a highly accurate bore, that is one that measures within .0005 inch of the specified diameter. Working up and down in this cylinder is a piston (usually made of cast iron) to which the connecting rod is attached by means of a so-called pin. The piston has grooves in it and these

grooves accept rings which pack the piston and expand against the cylinder wall.

The piston without the rings is made somewhat smaller than the cylinder, so that when the piston gets hot from being in contact with the burning gases in the cylinder, it expands and its diameter is made .003-inch smaller at the top, where it gets very hot, and .002-inch smaller at the bottom, or skirt, where the heat is not so great.

This difference in diameter is called the piston clearance and varies in different engines. The space, or clearance, between the piston and cylinder is taken up by an oil film. But such a piston alone would be loose in the cylinder and could not create a good vacuum above it. Therefore, the piston rings are used. These are springy pieces of cast iron which are snapped into the grooves and which expand outward against the cylinder wall. It is the rings which do most of the rubbing against the cylinder, because upon them depends the work of making a gas-tight joint.

If perfect lubrication of cylinder wall and piston were maintained the engine would run for a long time before any appreciable wear would take place, but owing to various factors this lubrication is not by any means perfect, with the result that after 20,000 miles, 15,000 or even 10,000 miles the cylinders may become worn oval, the rings badly worn, so they no longer make a gas-tight joint, the pins may become loose and knock, or the cylinder wall may become scored, cut or burned.

"Some of the factors contributing to these conditions are: Poor manufacture to begin with, bad fitting of pistons and rings, misalignment of these parts in the cylinder, excessive use of the choke, which causes raw fuel to wash away the oil on the cylinder wall and piston; poor materials, insufficient or impaired lubrication or natural wear. When these conditions exist the owner knows it because the engine does not develop its usual power; it uses a larger amount of fuel and oil; it carbonizes rapidly; may misfire a lot by continually fouling the spark plugs; it is hard to start; it may smoke more than usual; it is noisy, etc."

What happens? The owner takes the car to a repair shop. He may be told that the engine needs oversize rings, and that these rings alone will stop the trouble. He may be told that new pistons, rings and pins will absolutely cure the trouble, or he may simply

be told that some new kind of oil or some kind of dope will do the work.

There is only one thing for the owner to do in a case of this kind before deciding upon any remedy and that is to have the repairman find out WHY the trouble exists. That means the pistons must be removed and

extend all the way up nor all the way down the cylinder. This means that for a short distance at the top and for a short distance at the bottom of the cylinder there is a portion not worn at all, never touched by the piston rings and therefore not worn like the ring travel.

Into such a cylinder you cannot even insert an oversize piston ring. You have to first regrind or rebore the cylinder at the ends at least, so that the ends will be large enough to admit the larger ring. But such a practice is not advised.

If rings of the regular size are put into the worn cylinders they will do little good for a good ring cannot shape itself to an oval bar, nor can it accommodate the score marks.

CAREFUL DRIVERS' CLUB IS FEATURE IN SEATTLE

Seattle, Wash., has a "Careful Drivers' Club," and every member carries a metal plate on the rear of his car, similar to the license plate inscribed: "Let's drive carefully."

The club has a membership of several thousand and every member not only pledges himself to drive with care, but to see that traffic laws are obeyed by the motorists.

FRENCH AIR LINES CARRY \$525,000 CARGO IN YEAR

It is reported that civilian air lines in France imported more than \$400,000 worth of goods during the third quarter of the present year and exported goods valued at more than \$125,000. The French Commercial Air Company, one of the most important lines in operation, carried 6,697 passengers in 4,423 flights.

A Cause of Skidding.
A car which does not have both front and rear wheels in line will not efficiently hold the road in wet weather, especially when the brakes are applied.

Most Motor Troubles Can Be Cured by REGRINDING

While Manufacturers of all high-grade cars have long since recognized the value of ground cylinder bores, the average car owner is still in the dark.

Not only on new motors, but it is equally true on worn or scored cylinders to bring them back to their original condition it requires grinding, together with the fitting of new pistons, rings and pins.

Talk It Over With Your Repairman

Washington Automotive Grinders' Association
Washington, D. C.

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Scored Cylinders
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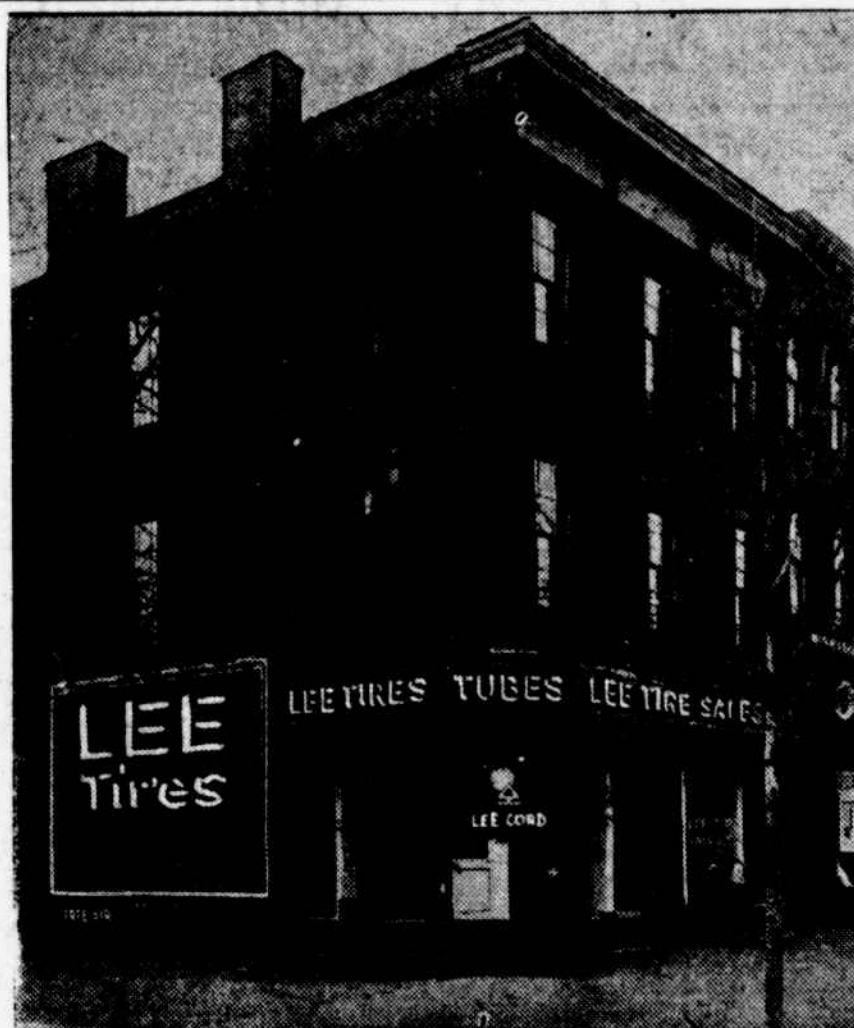
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